

# 2015 Annual Water Quality Report

The Whitman Water and Sewer Department is proud to provide you with the Year 2015 Annual Water Quality Report. Our objective is to help keep you abreast of ongoing and upcoming water system projects; local, state and federal drinking water regulations; and Whitman's annual water quality results. We are dedicated to supplying safe drinking water to all of our residents. The identification number for the Whitman Water System is 4338000.

## Water System Information

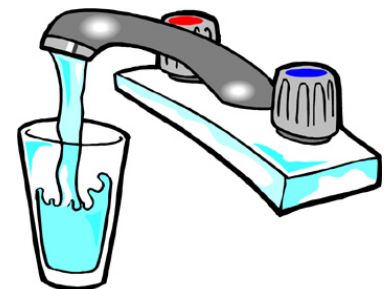
The Department of Public Works, Water and Sewer Department, supplies the Town of Whitman with drinking water from the City of Brockton's water system (PWS ID 4044000). The City of Brockton treats surface water from Silver Lake at the Silver Lake Water Treatment Plant (WTP). Silver Lake is located in the Town of Pembroke approximately 10 miles southeast from the center of Whitman. The Silver Lake WTP employs activated carbon filtration with coagulation, flocculation and sedimentation to remove particles and organic matter. Chlorine is used to disinfect the water prior to entering the distribution system.

The Silver Lake reservoir (4044000-01S) can be supplemented with water from Furnace Pond in Pembroke and Monponsett Pond in Halifax. Pine Brook is an emergency source and can be temporarily diverted to Silver Lake with approval from the Massachusetts Department of Environmental Protection (MassDEP) under a Declaration of Water Emergency. The Pine Brook diversion has only been used once since 1986. The safe yield of the Silver Lake reservoir system is 9.5 million gallons per day (MGD). The City of Brockton water system also treats surface water from the Brockton Reservoir (4044000-02S), which has a safe yield of 0.9 MGD, and purchases desalinated water from the Aquaria Water Treatment Plant in Dighton, MA.

Treated water from the Silver Lake WTP is transmitted through two (2) 24-inch diameter mains to the Brown's Crossing Pumping Station, which pumps water through one (1) 36-inch diameter and two (2) 24-inch diameter transmission mains to the Brockton and Whitman water systems. The connections to the Whitman Water System are located on Temple Street at the Brockton line (12" connection) and on Bedford Street at Peaceful Meadows (16" connection).

In the year 2015, Whitman Water and Sewer Department purchased 294.52 million gallons of water from the Brockton Water Department.

The MassDEP has prepared a Source Water Assessment Program (SWAP) Report for Brockton's water supply sources described above. The SWAP report indicated a high susceptibility to contamination for Silver Lake because of current land uses which include residential fuel oil storage, landscaping practices and septic systems and a high susceptibility to contamination from aquatic wildlife, transportation corridors, and transmission lines. Residents can help protect sources by taking hazardous household chemicals to hazardous materials collection days, and by limiting the use of pesticides and fertilizer. The complete SWAP report is available for your review at the Water and Sewer Department and the Board of Health. Alternately, it can be obtained online from Massachusetts DEP website: <http://www.mass.gov/eea/docs/dep/water/drinking/swap/sero/4044000.pdf>.



The Whitman Water System is overseen by the Water and Sewer Department within the Department of Public Works (DPW). Please call the DPW at **781-447-7630** with any question, concerns, or problems regarding water meters, leaks, water main breaks, fire hydrants, billing, or water quality. Our staff is there to assist you:

### **Superintendent Public Works**

**Aaron (Ralph) Richardson**

### **Board of Commissioners**

**Kenneth Lailer**

**David Cook**

**Ronald Delmonico**

**Kevin Cleary**

**Wayne Carroll**

In addition, the Board of Public Works (Water Commissioners) typically meets at 100 Essex Street on the second Tuesday of each month. Please contact the Department of Public Works regarding the meeting schedule. Supplemental information about drinking water quality and potential health effects can be obtained by calling the Environmental Protection Agency's **Safe Drinking Water Hotline: 1-800-426-4791**. Useful information can also be found on MassDEP's website (<http://www.mass.gov/dep/>) or the Town's website (<http://www.whitman-ma.gov>).



# Water Quality Summary

The Whitman Department of Public Works is committed to providing our customers with high quality drinking water which meets or surpasses state and federal drinking water standards for quality and safety. Each year the Whitman Water and Sewer Department and the City of Brockton conduct thousands of water quality tests, examining them for more than 125 potential drinking water contaminants. A summary of contaminants detected in 2015 are provided below. For contaminants that are not required to be sampled annually, the results from the most recent sampling within the past 5 years are given. In 2011, Silver Lake was tested for presence of *Cryptosporidium* and it was not detected. Not listed are contaminants that were tested for but not detected.

Substance (Contaminant)	Range Detected	MCL	MCLG	Violation	Common and Likely Source(s) of Contaminant
Barium (ppm) <sup>Brockton</sup>	0.013 – 0.044	2	2	N	Discharge of drilling wastes; Dis-charge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	ND – 1.82	MRDL = 4	MRDLG	N	Water additive used to control microbes.
Copper (ppm) (90 <sup>th</sup> %tile) * 46 Sites	ND – 0.09 (0.1)* 0 > A.L.	A.L. = 90 <sup>th</sup> %tile of 1.3	1.3	N	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead (ppm) (90 <sup>th</sup> %tile)* 46 Sites	ND – 0.003 (0.001)* 0 > A.L.	A.L. = 90 <sup>th</sup> %tile of 0.015	0	N	Corrosion of household plumbing; erosion of natural deposits.
Nitrate (ppm) <sup>Brockton</sup>	ND -.17	10	10	N	Runoff from fertilizer; leaching from septic tanks; sewage; erosion of natural deposits.
Perchlorate (ppm) <sup>Brockton (2014)</sup>	0.33	2.0	NA		Rocket propellants, fireworks, munitions, flares, blasting agents
Tetrachloroethylene (PCE) (ppb)	ND – .9	5	0	N	Discharge from factories and dry cleaners.
Total HAA5s (ppb) (Haloacetic Acids)	11.8 – 41.5 RAA = 22.2	RAA <60	0	N	By-product of water chlorination.
Total THMs (ppb) (Trihalomethanes)	15.1 – 85.9 RAA = 49.3	RAA < 80	0	N	By-product of water chlorination.
Total Coliform	ND – ND positive sample in 1 month	< 5% are positive	0	N	Naturally present in the environment.
Turbidity (NTU) (Nephelometric Turbidity Units) <sup>Brockton</sup>	0.03 – 0.29	TT = 5 NTU	NA	N	Soil Runoff. Turbidity is a measure of the cloudiness in water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
	100%	TT = >95% <0.3 NTU	NA	N	
Sodium (ppm)	23.8 – 74.1	Unregulated	N/A	N	The Massachusetts DEP has established a sodium guideline of 20 mg/L. Sodium is a naturally occurring common element found in soil and water. It is necessary for the normal functioning of human systems. The principal source of exposure to sodium is from the diet. Drinking water contributes only a small fraction (less than 10%) to the overall sodium intake. Individuals concerned about sodium levels should consult their physician.
Tetrachloroethylene (ppb)	ND – 0.9	5	0	N	Discharge from factories, dry cleaners, and asbestos cement lined pipes
Chlorodibromomethane (ppb)	1.1 – 1.4	Unregulated	N/A	N	

## Definitions

**2012** Denotes the calendar year for the reported results from most recent sampling.

**\* 90<sup>th</sup> %tile** Out of every 10 homes, 9 were at or below this level.

**A.L.** Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.

**MCL** Maximum Contaminant Level: The highest level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG** Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MFL** Million fibers per liter.

**MRDL** Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbiological contamination.

**MRDLG** Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**ND** Not detected. Refers to the detection limit of the chemical analysis instrument or procedure.

**NR** Not regulated.

**NA** Not applicable.

**pCi/L** Picocuries per liter (a measure of radioactivity).

**PPB** One part per billion.

**PPM** One part per million.

**RAA** Running annual average of quarterly sampling results.

**TT** Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

**Brockton** As reported by the City of Brockton 111167

# Public Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:



**Microbial contaminants**, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic contaminants**, such as salts and metals can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

**Pesticides and herbicides** may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**Organic chemical contaminants** include synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

**Radioactive contaminants** can be naturally occurring or be the result of oil and gas production, and mining activities.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Whitman is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

In order to ensure that tap water is safe to drink, MassDEP and USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

## Con\$ervation Tips

1. Change or clean your faucet aerator at least once a year.
2. Check your meter – the red triangle on the meter should not be moving if there is no water being used.
3. Check toilet(s) – put food coloring in the tank, but don't flush. After 30 minutes, if any coloring appears in the bowl, there is a leak.
4. Conduct any outside watering in the early morning or evening to limit evaporation and maximize infiltration.
5. Collect rainwater in containers to water plants.
6. Install water savers on all faucets, including showerheads.
7. Fix leaking faucets.
8. Fill sink rather than leaving tap running when shaving, washing hands or doing dishes.
9. Turn off the faucet while brushing teeth or shaving.
10. Only run washing machine or dish washers when full.
11. Take shorter showers.
12. Instead of running the hose while washing your car, use a bucket of water and a quick hose rinse at the end.
13. Use a broom instead of a hose to clean driveways and sidewalks.
14. Keep a bottle of drinking water in the refrigerator. This beats the wasteful habit of running tap water to cool it for drinking.
15. Rather than defrosting foods with running water, place them in the refrigerator overnight or defrost them in the microwave.
16. Fill the sink or a bowl with water to wash vegetables instead of running the faucet.
17. Use the garbage disposal less and the garbage or compost more.
18. Put a layer of mulch around trees and plants. Chunks of bark, peat moss or gravel slows down evaporation.
19. Set lawn mower blades one notch higher. Longer grass means less evaporation.
20. Saving water saves you money!



# Unregulated Contaminants Monitoring Rule

Under the UCMR water systems are required by the USEPA to test for Unregulated Contaminants. Unregulated Contaminants are those for which USEPA has not established drinking water standards. The purpose of monitoring for Unregulated Contaminants is to assist USEPA in determining their occurrence in drinking water and whether future regulation is warranted. For more information about the UCMR, please visit the following USEPA website: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm>. Of the 21 Unregulated Contaminants monitored, only 4 were identified as noted below:

Substance (Contaminant)	Average	Range Detected	MCL
Chromium (total) <small>(2014)</small>	0.025 ppb	ND-0.2 ppb	N/A
Chromium-6 <small>(2014)</small>	0.0875 ppb	0.05-0.13 ppb	N/A
Chlorate <small>(2014)</small>	126 ppb	70-210 ppb	N/A
Strontium <small>(2014)</small>	50 ppb	42-60 ppb	N/A

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